

Aug. 17, 1943.

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2,326,762

SIFTER

Original Filed Oct. 27, 1940

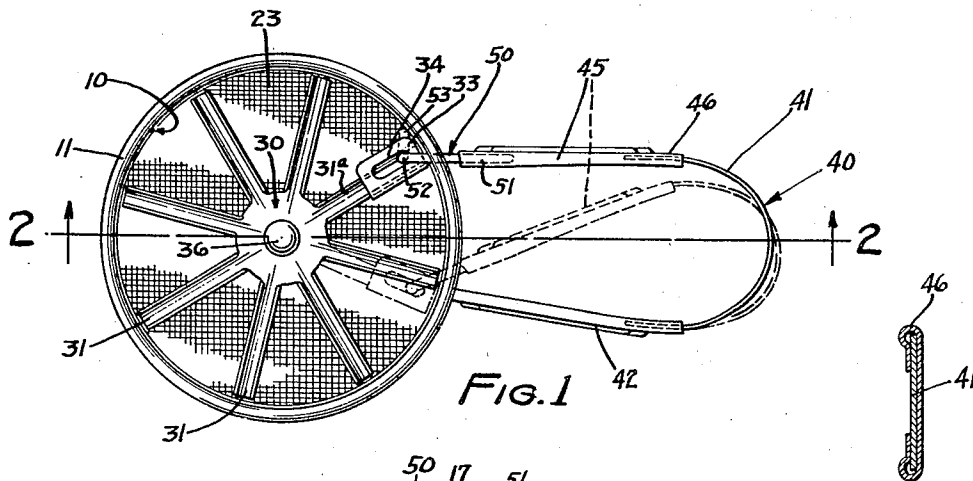


Fig. 1

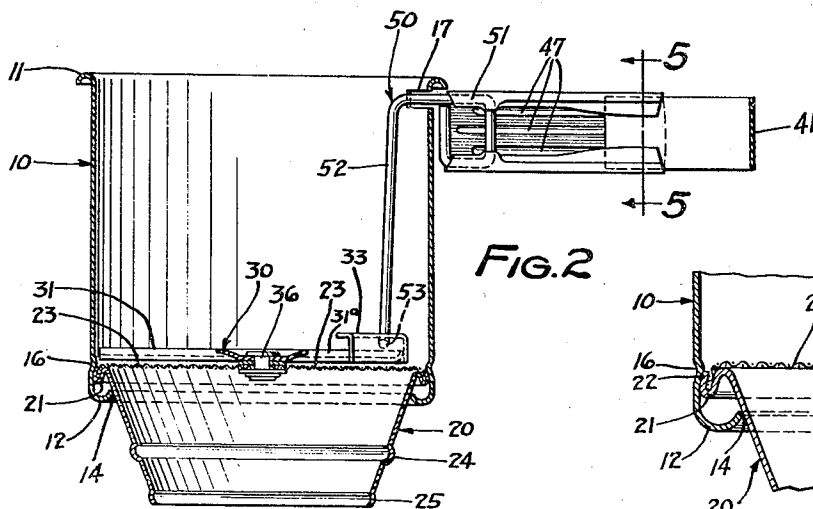


Fig. 2

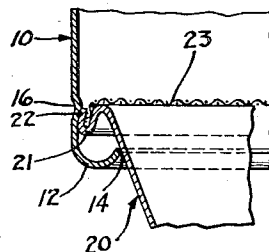


Fig. 4

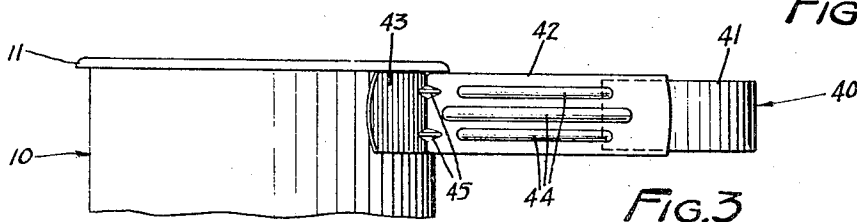


Fig. 3

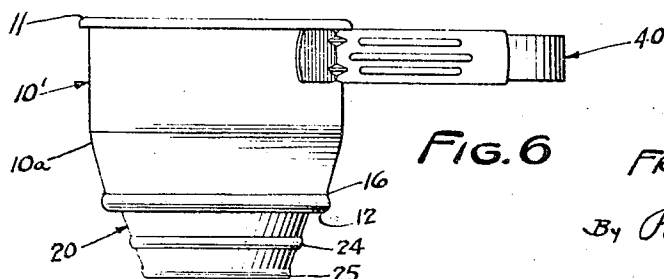


Fig. 6

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UNITED STATES PATENT OFFICE

2,326,762

SIFTER

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Original application October 27, 1940, Serial No.
360,107. Divided and this application October
13, 1941, Serial No. 414,832

3 Claims. (Cl. 209-357)

This invention relates to culinary apparatus and more particularly to flour sifters of improved design capable of being used efficiently and easily in culinary operations.

Flour sifters heretofore available are subject to the objections that they are bulky, lacking in balance, and not easy to use, particularly in conjunction with measuring cups. In addition, they are frequently heavy, expensive to construct and so designed as not to be durable in use.

It is an object of the invention to overcome these objections and to provide an improved flour sifter which will be light in weight, yet strong and durable, well balanced and easy to use, capable of being manipulated by one hand, and in all more satisfactory than devices heretofore available.

It is also an object of the invention to provide a flour sifter which may be used as a flour sifter for dispensing flour into a measuring cup or the like. The sifter of the present invention is formed so that it may be fitted solidly into a measuring cup or the like, thereby avoiding tipping.

Other objects of the invention are those inherent in the apparatus hereinafter illustrated, described and claimed.

The invention is illustrated in the drawing in which

Figure 1 is a plan view of the apparatus of the present invention;

Figure 2 is a sectional view in elevation taken along the lines 2-2 of Figure 1;

Figure 3 is an enlarged fragmentary side elevational view;

Figure 4 is an enlarged fragmentary sectional view of the connection of certain parts of the apparatus;

Figure 5 is an enlarged elevational view taken along the line 5-5 of Figure 2;

Figure 6 is a side elevational view of a slightly modified form of the device utilizing a shaped cylindrical member of lesser height than that of Figure 2.

The flour sifter apparatus of the present invention consists of a cylindrical member, generally designated 10, having a diameter preferably about the same as its height. The cylindrical member is preferably made of sheet metal folded and preferably is made of one piece of sheet metal. The cylindrical member 10 may be of a constant diameter throughout or of the shape shown at 10' in Figure 6, wherein the bottom of the cylinder is drawn in as shown at 10a. The upper edge of the cylindrical member is rolled over outwardly to form a flange beading as shown at 11, and the lower end of the cylindrical member is rolled inwardly to provide a flange 21. Near the upper part of the cylindrical member, there is provided an arcuately shaped slot 17 and immediately below the outwardly turned flange 11.

Into the cylindrical member 10 or 10', there is pressed a frustro-conical funnel member, generally designated 20, which is preferably a stamping of sheet metal. At the upper end of the funnel, there is an outwardly rolled flange 21, which is then crimped upon itself as shown at 22 so as to retain a wire cloth screening element 23. The funnel member and the wire cloth element 23 thus constitute an assembly which is pressed into the cylindrical member until the outer surface of the frustro-conical member 20 contacts the inwardly rolled flange 12 at 14 as shown in Figures 2 and 4. The cylindrical member is then preferably beaded inwardly by rolling at a line 16 slightly above the upper edge of the crimped flange portion 22, the inwardly rolled bead serving additionally to compress the flange and retain the entire funnel assembly 20 in place in the cylindrical member.

The funnel member 20 is likewise preferably provided with two or more outwardly rolled beadings 24 and 25, the lower beading 25 serving to provide a smooth edge and also serving to stiffen the lower edge of the frustro-conical member. The intermediate beading 24 is positioned so as to provide an outwardly extending ledge, which will engage upon and steady the entire sifter assembly when the same is placed upon a cup or other cylindrical container.

The location of the intermediate beading 24 (and other intermediate beadings which may if desired be provided) is such so as to enable the use of the sifter with various sizes of measuring cups and receptacles. In this connection, it is noted also that the inwardly extending flange 12 of the cylinder also forms a shoulder which likewise serves as a rest for the sifter, when the latter is used with a measuring cup. When the cylindrical member is of the type 10' shown in Figure 6, the lower drawn in portion 10a likewise provides a rest portion for measuring cups larger than the diameter of flange 12.

At the center of the wire screen element 23, there is pivotally mounted a spoke-shaped agitator, generally designated 30. The agitator is preferably made of stamped metal and has a plurality of spokes 31, the spokes each being shaped in the form of a channel for the purpose of stiffness.

The agitator 30 is preferably mounted with the curved under-surface of each of the spokes 31 in contact with the wire screen element so as to provide a smooth action of the agitator upon the screen element. One of the spokes 31 is also provided with an upturned integrally formed extension 33, which is folded at the top so as to lie parallel with the spoke 31a, but spaced therefrom. The portion 33 is provided with a slot 34. The entire agitator assembly 30 is piv-

oted upon the rivet 36, which is immovably attached on the wire screen element 23.

Protruding outwardly from the upper portion of the cylindrical member 10, there is a handle structure, generally designated 40, which is composed of a flat, U-shaped strip 41. One end of the U-shaped strip 41 is crimped onto a sheet metal handle piece 42, the crimping being sufficient to hold the spring strip 41 immovable with respect to the sheet metal handle piece. The handle piece 42 has a portion 43, which is spot welded or otherwise affixed to the cylindrical member 10, and the handle is preferably provided with parallel embossed lines 44 for stiffening and for providing a finger gripping section and with embossing 45, which serve to enhance the strength of the handle where it is joined to the cylindrical member.

The opposite portion of the flat, U-shaped strip 41 is similarly attached to another sheet metal handle portion 45, which is likewise crimped to the U-shaped sheet metal spring strip, as shown at 46. The opposite end of the member 45 is crimped onto a wire element 50, the latter being bent into a rectangular form as shown at 51. The element 45 is likewise provided with parallel embossings 47 which serve to enhance the strength of the element and also serve as a finger grip portion.

The wire element 50 extends through the arcuate slot 17, and then is bent as shown at 52 to extend downwardly closely adjacent the side wall of the cylindrical member 10. The wire element 50 extends downwardly at 52 through the slot 34, where it is bent as shown at 53, so as to be retained.

In the normal position, the spring strip 41 tends to maintain the handle in a position shown in full lines in Figure 1, but when an operator grips the handle 40 and squeezes the same, it is free to move to the dotted line position shown in Figure 1. During this movement, the wire element 50 slides along the arcuate shaped slot 17, the limits of movement being determined by the ends of the arcuate shaped slot. As the handle 40 is moved from the full to the dotted line positions shown in Figure 1, the wire element 50 likewise moves and rotates the spoke-shaped agitator 30 with reference to the screen 23. When the operator relaxes the grip upon the handle 40, the springiness of strip 41 returns the handle to the position shown in full lines and causes a return rotary movement of the agitator element thereby causing flour or other material within the sifter to be agitated and sifted through the screen 23.

Since the entire handle 40 is positioned at the upper portion of the sifter, and since the weight of the material is well below the position of the handle 40, the sifter tends to hang in a stable position thereby preventing accidental spilling of material in the sifter. The sifter is thus inherently balanced and does not require any attention on behalf of the operator to prevent spilling of the material. Likewise, the sifter may readily be used for scooping the material to be sifted from a container.

As another feature of the invention, it may be noted that during use, the flange 12 of the sifter or bead 24 (or another of the intermediate beads 24, if provided) will rest upon an upper edge of

a circular cup or other container with which the sifter may be used thereby aiding in holding the sifter against overturning in the event the operator desires to rest the sifter upon the cup or other container. By such construction, the user is able to save motions, dishes, scattered flour, and is able to sift directly into a measuring cup.

It is to be noted also that the lower beading 23 on the frustro-conical funnel 20 is not a 180° crimp and hence material does not tend to lodge within the beading 23 as would be the case if the beading 23 were simply an edge metal fold.

This application is a division of my co-pending application Serial No. 360,107 filed October 27, 1940.

Many obvious variations will be apparent to those skilled in the art and such are intended to be within the purview of the invention illustrated, described and claimed.

I claim as my invention:

1. A sifter comprising a generally cylindrical shell having a sifter screen mounted therein in a plane generally perpendicular to the axis of the cylinder, an arcuate slot in the cylinder wall in a plane substantially parallel with but displaced from the plane of the screen, an agitator pivotally mounted on the screen, said agitator having a slot therein extending outwardly from the pivotal mounting, a handle of generally U-shaped configuration positioned radially outwardly from the cylinder wall near the arcuate slot in the cylinder wall, said handle being composed of two relatively straight stiff parts joined together at their outer end, the inner end of one part being solidly attached to the cylinder and the inner end of the other part being adjacent the arcuate slot of the cylinder wall and free to move therealong, and a stiff connector extending from the end of the moveable handle part, through the slot and then endwise of the cylindrical shell and into the radial agitator slot.

2. A sifter comprising a cylindrical member having an arcuate slot near one end thereof, a screen mounted across one end of the cylinder at the other end thereof, a spoke-shaped agitator rotatably mounted on said screen and centrally within the cylinder on the face of the screen toward said arcuate slot, one of the spokes of said agitator having a slot substantially radially therein, an outwardly extending U-shaped handle having at least a portion thereof composed of thin flexible material, said handle being mounted on the cylinder extending outwardly adjacent the slot in the cylinder, one leg of the U-shaped handle being connected to the cylinder, a stiff member connected to the other leg of the U-shaped handle extending through an arcuate slot in the cylinder and then downwardly within the cylinder toward the screen, said extending portion being positioned in said slot whereby the agitator is rotated when the handle is squeezed.

3. A device of the type set forth in claim 2 wherein the U-shaped handle includes a U-shaped spring strip, sheet ends crimped onto the strip, one of said ends being fixedly attached to the cylindrical member and the other being crimped to envelop a wire, said wire being the member extending through a slot in the cylindrical member.

FREEMAN E. COLLIER.

CERTIFICATE OF CORRECTION.

Patent No. 2,326,762.

August 17, 1943.

FREEMAN E. COLLIER.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 2, second column, line 34, claim 1, after the word "end" first occurrence, and before the comma insert --by a flexible strip--; same line and claim, after "one" insert --relatively straight--; line 36, same claim 1, after "other" insert --relatively straight--; line 49, claim 2, for "slot substantially radially" read --substantially radially slot--; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 9th day of November, A. D. 1943.

(Seal)

Henry Van Arsdale,
Acting Commissioner of Patents.